THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 63

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte PAUL MC MAHON, TAI-SHUNG CHUNG and LINCOLN YING

Appeal No. 95-3094
Application No. 07/975,141[1]

HEARD: June 11, 1999

Before WINTERS, METZ, and JOHN D. SMITH, Administrative Patent Judges.

JOHN D. SMITH, Administrative Patent Judge.

DECISION ON APPEAL

[1] Application for patent filed November 12, 1992. According to appellants, the application is a continuation of Application No. 07/657,348, filed February 15, 1991; which is continuation of Application No. 06/770,376, filed August 29, 1985; which is a continuation of Application No. 06/589,825, filed March 15, 1984.

This is an appeal pursuant to 35 U.S.C. § 134 from the final rejection of claims 18 and 35-45. Claims 46-59 stand withdrawn from further consideration as directed to a non-elected invention. Claim 18 is representative and is reproduced below:

Claim 18. A continuous, linearly intermixed fiber tow useful in forming composite molded articles which comprises an intimately, uniformly and continuously intermixed blend of about 90 to about 30% by volume, based on the total fiber content, of spun, continuous, individual, thermoplastic polymer fibers having a melting point of at least about 50°C and about 10 to about 70% by volume, based on the total fiber content, of continuous, individual, carbon fibers wherein there is a substantially uniform distribution of the thermoplastic fibers and the carbon fibers within the intermixed tow.

The references of record relied upon by the examiner are:

Hicks, Jr. (Hicks)	2,964,900	Dec. 20, 1960
Nina et al. (Nina)	3,358,436	Dec. 19, 1967
Smith (Published EPA Patent Application)	0 033 244	Aug. 5, 1981
Davis (Published UK Patent Application)	1 200 341	Jul. 29, 1970

Baucom, "Solventless Fabrication of Reinforced Composites", NASA Tech Brief, Fall (1992).

The appealed claims stand rejected under 35 U.S.C. § 103 as unpatentable over Baucom. The appealed claims also stand rejected under 35 U.S.C. § 103 as unpatentable over Baucom in

view of Hicks, Nina, Davis or Smith.

We reverse.

This is the second appeal of subject matter relating to a continuous intermixed fiber tow formed from continuous individual thermoplastic fibers and continuous carbon reinforcing fibers which are intimately and uniformly intermixed to provide a uniform distribution of the respective fibers in the tow. The tow is useful in forming composite molded articles. In the first appeal, the dispositive issue raised by the examiner's obviousness rejection of the then pending appealed claims was whether the prior art Baucom reference contained an enabling disclosure, i.e., whether one of ordinary skill in the art could combine Baucom's process description of intimately mixing thermoplastic fibers with graphite reinforcing fibers "with his own knowledge of the art" to make a tow as "conceived" by Baucom[2]. See the last

[2] The subject matter of the present appeal was developed by appellants under a contract with NASA. After appellants conceived the invention, the conception was disclosed to Robert Baucom at NASA who disclosed his understanding of the "conception" of the invention in the NASA Tech Briefs in the fall of 1982. Baucom did not expressly disclose how to prepare the intermixed fiber tow. See paragraph 2 of the declaration of McMahon.

full paragraph of page 4 of our decision entered on December 20, 1990 in Appeal No. 88-3660. The identical dispositive issue is again presented in this appeal, albeit the specific arguments before us are based on a substantially different record. Thus, the appealed claims now define the fiber tow as a "continuous, linearly intermixed fiber tow", and appellants extensively rely on evidence in a newly presented declaration from Kay Warren. The examiner relies on a number of prior art references to support his contention that skilled workers in this art had the ability at the time of appellants' invention to produce the article disclosed by Baucom. After a careful consideration of the record now before us, we find that appellants have provided sufficient evidence to overcome any legal conclusion that a skilled artisan could take the Baucom reference disclosures "in combination with his own knowledge of the particular art" and be in possession of the claimed invention. In re Legrice, 301 F.2d 929, 936, 133 USPQ 365, 372 (CCPA 1962).

A matter of concern addressed in our decision in Appeal No. 88-3660 was whether the then claimed tow could be made by a process wherein the fibers are intermixed by the use of

fluid (gas) jets, a prior art technique used to facilitate the combining of different types of fibers (specification, page 1, lines 13-15) which is also described as "an alternative intermixing process" useful for making the claimed tow (specification, page 23, lines 4-7) so long as the fibers are "in a relatively tension-free state". See the decision at page 6, lines 2-6. According to the newly presented declaration of Warren of record in this appeal, carbon fibers are "extremely brittle" and actual attempts to use "entanglement jets" under "standard operating procedures" to intermix carbon fibers with thermoplastic fibers resulted in massive breakage of the carbon fibers. See paragraphs 10 and 14 of the declaration. As an expert in the field of technology in question, Warren also opined that even had this procedure been successful, the mixed fiber product would not have been linearly intermixed, but entangled. In response, the examiner contends that because carbon fibers are well known to be extremely brittle, one skilled in the art would have modified Warren's experiment by reducing the entanglement jet velocities while lengthening the treatment path to reduce the forces on the carbon fibers. According to the examiner,

"Such is just common sense". See the answer at page 6. However, the examiner has cited no prior art[3] indicating that a person of ordinary skill in this art, faced with the above problem of carbon fiber breakage, would necessarily make the proposed "common sense" modifications, much less prior art disclosing precisely how and to what degree the jet velocities should be reduced and the treatment path lengthened. Thus, objective evidence in support of the examiner's argument is not of record.

As evidence that the claimed tow could have been made by hand, the examiner relies on example III of the Davis reference which illustrates a fiber blend of 6 inch long carbon filaments with 6 inch long polyester filaments blended by hand by a process of "teasing to separate and then reblending" of the fibers. No evidence is of record that a "continuous, linearly intermixed fiber tow" as claimed could be produced by hand. As appellants' counsel acknowledged at

[3] U.S. Patent No. 4,539,249 issued to Curzio on September 3, 1985 (based on application filed September 6, 1983), newly cited in the answer, discloses a technique for the preparation of a yarn composed of outer resin fibers surrounding a core of graphite fibers, not a product having the fibers intermixed.

the oral hearing, the claim language "continuous" limits the claimed tow to a material of indefinite length which may be thousands of feet in length.

With respect to the other prior art references relied on by the examiner, Hicks, Nina and Smith, the Warren declaration provides convincing technical reasons why the prior art techniques described in these references could not have been successful employed to manufacture the claimed tow. See paragraphs 19-23 of the declaration.

Based on the record before us, we agree with appellants that the prior art references relied upon by the examiner would not have enabled one skilled in the art to prepare a product such as suggested or "conceived" by Baucom. It is a fundamental tenet of patent law that references relied upon to support a rejection under 35 U.S.C. § 103 must provide an enabling disclosure, i.e., that must place the claimed invention in the public's possession. In re Payne, 606 F.2d 303, 314, 203 USPQ 245, 255 (CCPA 1979).

An invention is not possessed absent some known or obvious way to make it. Id. Accordingly, the examiner's rejections of the appealed claims are reversed.

REVERSED

SHERMAN D. WINTERS Administrative Patent Judge	)
ANDREW H. METZ Administrative Patent Judge	) BOARD OF PATENT APPEALS AND INTERFERENCES
JOHN D. SMITH Administrative Patent Judge	)

lp

Appeal No. 95-3094
Application No. 07/975, 141

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Appeal No. 95-3094
Application No. 07/975, 141

APJ JOHN D. SMITH

APJ METZ

APJ WINTERS

DECISION: REVERSED
Send Reference(s): Yes No
or Translation (s)
Panel Change: Yes No
Index Sheet-2901 Rejection(s): _____

Prepared: May 19, 2000

Draft Final

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OB/HD GAU

PALM / ACTS 2 / BOOK
DISK (FOIA) / REPORT